**3GPP TSG-RAN WG4 Meeting # 99-e *R4-21xxxxx***

**Electronic meeting, May 2021**

**Source:** Nokia, Nokia Shanghai Bell

**Title: TP to TR 38.849 on** **MPR values for LPI deployments**

**Agenda item:** 8.8.1

**Document for:** Approval

# Introduction

In this contribution, we provide Text proposal for TR 38.849 with MPR values for LPI deployments for lower 6GHz NR unlicensed operation in Europe, that were agreed during RAN4#99-e meeting.

# TP

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# 6 RF requirements

## 6.1 UE specific

6.1.1 Transmitter characteristics

This section details specific transmitter characteristics for a UE operating in the lower 6 GHz NR unlicensed range in Europe.

#### 6.1.1.1 A-MPR for a NS(s) for lower 6GHz NR unlicensed operation in Europe.

Additional emission requirements can be signalled by the network. Each additional emission requirement is associated with a unique network signalling (NS) value indicated in RRC signalling by an NR frequency band number of the applicable operating band as detailed in TS 38.101-1*.*

To meet the additional requirements applicable in EU as given in EN 303 687, additional maximum power reduction (A-MPR) is allowed for the maximum output power as specified in Table 6.1.1.1-1.

Table 6.1.1.1-1: A-MPR for PC5 LPI

|  |  |  |  |
| --- | --- | --- | --- |
| Pre-coding | Modulation | RB Allocation | |
|  |  | Full2 (dB) | Partial3 (dB) |
| DFT-s-ODFM | Pi/2 BPSK4 | ≤ 1.5 | ≤ 2.5 |
|  | QPSK | ≤ 2.0 | ≤ 3.5 |
|  | 16 QAM | ≤ 2.5 | ≤ 4.0 |
|  | 64 QAM | ≤ 3.5 | ≤ 4.5 |
|  | 256 QAM | ≤ 5.0 | ≤ 5.5 |
| CP-OFDM | QPSK | ≤ 3.5 | ≤ 4.5 |
|  | 16 QAM | ≤ 4.0 | ≤ 4.5 |
|  | 64 QAM | ≤ 5.5 | ≤ 5.5 |
|  | 256 QAM | ≤ 7.0 | ≤ 7.0 |
| NOTE 1: The A-MPR shall apply to all SCS in all active 20 MHz sub-bands contiguously allocated in the channel. The MPR applies to interlaced allocations with uplink resource allocation type 2 as specified in TS 38.214 [10].  NOTE 2: Full RB allocation A-MPR applies when all RB’s in a 20 MHz channel or all RB’s in all sub-bands for wideband operation are fully allocated and sub-bands are transmitted according to configuration A in Table 6.2F.2-2.  NOTE 3: Partial RB allocation A-MPR applies when one or more RB’s in one or more sub-bands are not allocated or when the transmitted sub-bands for wideband operation are transmitted according to configuration B in Table 6.2F.2-2.  NOTE 4: Applicable to Pi/2-BPSK modulation when IE powerBoostPi2BPSK is set to 0.  NOTE 5: The A-MPR applies instead of MPR for 20 MHz channel centered at the nearest NR-ARFCN corresponding to 5955 MHz, 40 MHz channel at the nearest NR-ARFCN corresponding to 5965 MHz, 60 MHz channel at the nearest NR-ARFCN corresponding to 5975 MHz, and 80 MHz channel at the nearest NR-ARFCN corresponding to 5985 MHz. For all other channels, A-MPR is zero and MPR as specified in Table 6.2F.2-1 applies. | | | |

6.1.2 Receiver characteristics

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# Conclusion

In this contribution a TP capturing the MPR values for LPI deployments in the lower 6 GHz NR unlicensed range in Europe is provided for agreement.

# References

1. R4